

REMARKS

Applicants will address each of the Examiner's objections and rejections in the order in which they appear in the Office Action.

Claim Rejections - 35 USC §112

In the Office Action, the Examiner rejects Claim 7 under 35 USC §112, first paragraph, as failing to comply with the enablement requirement. This rejection is respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending Claim 7 to recite the feature of "a contact angle θ of the selected portion of the liquid-repellent thin film, which is irradiated with plasma, for the liquid composition is $0^\circ \leq \theta < 10^\circ$, and a contact angle θ of the liquid-repellent thin film for the liquid composition is $10^\circ \leq \theta < 180^\circ$." This feature is supported by, for example, page 4, lines 8-10 of the English translation of the specification as filed for the present application.

In light of this disclosure and the amended claim language, it is respectfully submitted that one skilled in the art would be able to make and use the claimed invention. Therefore, Applicants have complied with the enablement requirement of §112.

Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim Objections

The Examiner also objects to Claim 2, but it is not clear what is the Examiner's basis for this objection. This objection is respectfully traversed.

More specifically, the Examiner appears to be contending that in Claim 2 “it is impossible to tell if there is any affinity or not in the holes/grooves, and since the only locations that necessarily have any affinity, are explicitly not deposited on, the presence of a film with affinity to the liquid not been deposited on that, it is essentially irrelevant to the deposition process, such that no clear benefit from the presence or absence of this film can be associated with the claimed process, which is merely filling in a groove or hole within unknown liquid, having an unknown affinity to the surface of that groove or hole.” Applicants respectfully disagree.

As explained in the specification (see e.g. pages 8-9 of the English translation of the specification), with the claimed method, a drop is caused to land accurately on a surface having affinity for liquid (e.g. page 8, lines 15-16). In the claimed method, the step of forming a groove or hole in a surface of a film having an affinity for a liquid composition is advantageous in that a discharged composition can be landed without the problem of the discharged composition moving to the non-landing region after landing in the groove or hole. See e.g. page 9, lines 9-11. This advantage is achieved regardless of whether the surface of the groove or hole has an affinity for a liquid composition. Therefore, the claimed step is not irrelevant to the deposition process but instead is advantageous.

Applicants are also amending claim 2 to clarify the claim language for this step.

Accordingly, this claim feature is not objectionable, and it is respectfully requested that this objection be withdrawn.

Claim Rejections - 35 USC §103

Seki in view of Lewis

The Examiner also rejects Claims 1, 3-4, 6-7 and 29 under 35 USC §103(a) as being unpatentable over Seki et al. (EP 0989778) in view of Lewis et al. (US 5,272,979). This rejection is also respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claim 1 to recite the feature of “moving a first nozzle and a second nozzle, which are integrated, to a selected portion of the liquid-repellent thin film.” This feature is supported by, for example, page 7, lines 3-6 of the English translation of the specification and Figs. 1(A)-1(D) of the present application.

In contrast, none of the cited references appear to disclose or suggest this claimed feature, e.g. that a first nozzle (i.e. plasma irradiating) and a second nozzle (i.e. drop discharge) are integrated, that the nozzles are moved to a selected portion, and that irradiating with plasma and discharging a drop are performed alternately.

Therefore, Seki and Lewis do not disclose or suggest the method of independent Claim 1, and Claim 1 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this rejection be withdrawn.

Seki in view of Lewis and further in view of Di Dio

The Examiner also rejects Claims 2, 5, 16-18 and 30 under 35 USC §103(a) as being unpatentable over Seki et al. in view of Lewis et al. and further in view of Di Dio (US 2004/0152329). This rejection is also respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claim 2 in a similar manner as discussed above for Claim 1. Hence, for similar reasons as discussed above, Claim 2 is also patentable over Seki and Lewis. Further, even if Di Dio is combined with Seki and Lewis, the claimed step of “moving a first nozzle and a second nozzle, which are integrated, to a selected portion of the thin film” is still not obtained.

Therefore, none of the cited references or combination thereof disclose or suggest the method of independent Claim 2, and Claim 2 and those claims dependent thereon are patentable over the cited references.

Accordingly, it is respectfully requested that this rejection be withdrawn.

Yoshikawa in view of Lewis

The Examiner also rejects Claims 1-4, 6-7, 14-16 and 29-30 under 35 USC §103(a) as being unpatentable over Yoshikawa et al. (US 6,228,435) in view of Lewis et al. This rejection is also respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claims 1 and 2, as discussed above, and independent Claims 23 and 26 in a similar manner to Claims 1 and 2.

In contrast, none of the cited references disclose the above claimed step.

Therefore, none of the cited references or combination thereof disclose or suggest the method of independent Claims 1, 2, 23 and 26, and Claims 1, 2, 23 and 26 and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that this

rejection be withdrawn.

Double Patenting

The Examiner also has the following rejections for double patenting:

- A. Claims 1-7, 16-18 and 23- 30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-10 of U.S. 7,226,819 (Maekawa et al.) in view of Lewis et al. '979.
- B. Claims 1-6, 16-18 and 23-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting over Claims 1-35; or 1-22, 28-37, 44-47; or 1-12 and 23-27 of copending Application Nos. 10/575,492, or 11/749,804 or 11/025,192 (U.S. 2007/0218674), respectively in view of Lewis '979.

These rejections are respectfully traversed.

While Applicants traverse these rejections, it is believed that none of the claims of the '819 patent or the cited applications include the above discussed feature of independent Claims 1, 2, 23 and 26. Therefore, there is no double patenting.

Accordingly, it is respectfully requested that these rejections be withdrawn.

Conclusion

It is respectfully submitted that the present application is in a condition for allowance and should be allowed.

If any fee should be due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

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Respectfully submitted,

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